CLAIMS:

(amended August 25, 2004)

1. COM having the amino acid sequence SEQ ID NO. 1

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  1  ELTEAQRRGL QVALEEFHKH PPVQWAFQET SVESAVDTPF PAGIFVRLEF
 51  KLQQTSCRKR DWKKPECKVR PNGRKRKCLA CIKLGSEDKV LGRLVHCPIE
101  TQVLREAEEH QETQCLRVQR AGEDPHSFYF PGQF
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and its derivatives, especially amidated, acetylated, phosphorylated and glycosylated derivatives, or having a pyroglutamate at the N terminus, in which the amino acid sequence of the derivatives of COM is changed by amino acid substitutions, insertions or deletions, with the provisos that

- the derivatives have a length of not more than 150 amino acids;
- the derivatives have a sequence identity with COM of more than 80%;
- the derivatives will activate the receptor GORI-28 in a functional test with the FLIPR system, so that a receptor activity is measured which is at least 80% of the receptor activity triggered by COM under the same testing conditions, preferably being greater than the receptor activity triggered by COM.

2. The COM or derivative according to claim 1 and its receptor GORI-28 as a ligand-receptor system.

3. Use of a ligand-receptor system according to claim 2 for the screening of substances in peptide libraries or other substance libraries and as a drug target.

4. A method for the preparation of COM or its derivatives according to claim 1, characterized in that it is prepared by cell cultures and purified by chromatography, or that it is isolated from human blood through

usual chromatographic methods in the usual way, or that it is prepared by the usual methods of chemical or biotechnological synthesis and purified by the usual chromatographic methods.

5. A medicament containing COM or its derivatives according to claim 1, optionally in addition to usual adjuvants and additives.

6. The medicament according to claim 5, especially a lyophilized form taken up with mannitol, wherein the galenic dosage form contains amounts of from 300 µg to 30 mg of pure COM per therapy unit in sterile ampoules for dissolution in physiological saline and/or infusion solutions for the repeated single injection and/or permanent infusion.

7. Use of COM and its derivatives according to claim 1 for the preparation of a medicament for the treatment of diseases of the parathyroid gland, especially its hypofunction (hypoparathyroidism);

for the treatment of degenerative bone diseases, especially osteoporosis;

for the treatment of bone fractures in the phase of healing;

for the treatment of cartilage diseases, connective tissue diseases, rheumatism and arthrosis;

for the treatment of obesity and diabetes type 2;

for the treatment of diseases of the immune system;

for the treatment of diseases subjected to therapy with influencing the migration of stem cells, including chemotherapy;

for the treatment of renal diseases accompanied by disorders in electrolyte excretion, especially in acute renal insufficiency and phosphate and calcium excretion disorders; or

for the treatment of skin diseases, especially psoriasis, eczemas and acne.

8. Use of COM and its derivatives according to claim 1 for the preparation of a diagnostic agent for the diagnosis of diseases, especially according to claim 6, wherein specific antibodies against the synthetic molecule are prepared and the blood concentration of COM is measured by immune tests or by quantitative mass spectrometry.

9. Use of COM and its derivatives for preparing a medicament according to claim 7 in various galenic dosage forms, especially as a lyophilizate.

10. The use according to claim 9, wherein said galenic dosage form, especially the lyophilized form taken up with mannitol, contains amounts of from 300 µg to 30 mg of pure COM per therapy unit in sterile ampoules for dissolution in physiological saline and/or infusion solutions for the repeated single injection and/or permanent infusion.